



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,495	09/03/2004	Sindre Mikkelsen	MIKKELSEN1	1579
1444	7590	03/06/2006	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			LEE, PATRICK J	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/506,495	Applicant(s) MIKKELSEN ET AL.	
	Examiner Patrick J. Lee	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1204</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title should allow a reader to understand the main thrust of applicant's invention.

Claim Objections

3. Claim 4 is objected to because of the following informalities: The preambles of claims dependent on claim 1 should be consistent. The objection can be overcome by explicitly placing all the limitations of claim 1 into claim 4. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,590,215 B2 to Nygard et al.

With respect to claims 1 & 5, Nygard et al disclose a readout circuit for a charge detector comprising: lookup table (46) for performing the step of storing addresses of neighboring pixels of pixels (12); circuitry comprising flip-flops (42, 45, 54) and Reconstruction Circuit (14) for performing the steps of using an address to read from lookup table and reading data representative of pixel energy. Nygard et al disclose a readout circuit for active pixels (12) comprising: sample and hold circuits (26) as a sampling circuit coupled to each pixel (12) for sampling an energy level associated with at least one active pixel (12); addressable memory (46) as a lookup table having a plurality of locations corresponding to respective pixel and storing addresses; and circuitry comprising flip-flops (42, 45, 54) and Reconstruction Circuit (14) as a controller for feeding the address to read out the energy signal (48). Nygard et al does not explicitly disclose the use of an encoding device, but such would have been obvious to one of ordinary skill in the art because the encoder would allow for uniformity and consistency in generating the appropriate addresses.

With respect to claim 2, the modified Nygard et al illustrates the use of first and second spatially separated sensor segments in figure 3.

With respect to claims 3 & 12, the modified Nygard et al disclose the use of threshold discriminator (14) and monostable (25) for calculating the cumulative energy as long as the energy is below a predetermined threshold value.

With respect to claim 4, the modified Nygard et al disclose the method for a charge read out detector.

With respect to claim 6, the modified Nygard et al discloses sample and hold circuit (26) and multiplexer (118) with a plurality of addressable channels.

With respect to claim 7, the modified Nygard et al does not explicitly disclose the use of a track and hold unit, but such would have been obvious to one of ordinary skill in the art because such would allow for the device to additionally monitor the signal detected in pixel (12).

With respect to claim 8, the modified Nygard et al disclose the controller (14) to feed addresses to analog multiplexer (118).

With respect to claim 9, the modified Nygard et al disclose threshold discriminator (14) and monostable (25). While monostable (25) is not disclosed to be resettable, such would be obvious to one of ordinary skill in the art in order to prevent an adverse effect on the device due to accumulated charges within the monostable.

With respect to claim 10, the modified Nygard et al does not explicitly disclose the use of an accumulator and reset circuit, but such would have been obvious to one of ordinary skill in the art to grant additional ability to the device to monitor the signals detected by the array of pixels (12).

With respect to claim 11, the modified Nygard et al illustrates the use of first and second spatially separated sensor segments in figure 3.

With respect to claim 13, the modified Nygard et al disclose the controller (14) to feed addresses to analog multiplexer (118).

With respect to claim 14, the modified Nygard et al disclose threshold discriminator (14) and monostable (25). While monostable (25) is not disclosed to be

resettable, such would be obvious to one of ordinary skill in the art in order to prevent an adverse effect on the device due to accumulated charges within the monostable.

With respect to claim 15, the modified Nygard et al disclose threshold discriminator (14) and monostable (25). While monostable (25) is not disclosed to be resettable, such would be obvious to one of ordinary skill in the art in order to prevent an adverse effect on the device due to accumulated charges within the monostable.

With respect to claim 16, the modified Nygard et al disclose threshold discriminator (14) and monostable (25). While monostable (25) is not disclosed to be resettable, such would be obvious to one of ordinary skill in the art in order to prevent an adverse effect on the device due to accumulated charges within the monostable.

With respect to claim 17, the modified Nygard et al does not explicitly disclose the use of an accumulator and reset circuit, but such would have been obvious to one of ordinary skill in the art to grant additional ability to the device to monitor the signals detected by the array of pixels (12).

With respect to claim 18, the modified Nygard et al does not explicitly disclose the use of an accumulator and reset circuit, but such would have been obvious to one of ordinary skill in the art to grant additional ability to the device to monitor the signals detected by the array of pixels (12).

With respect to claim 19, the modified Nygard et al does not explicitly disclose the use of an accumulator and reset circuit, but such would have been obvious to one of ordinary skill in the art to grant additional ability to the device to monitor the signals detected by the array of pixels (12).

With respect to claim 20, the modified Nygard et al illustrates the use of first and second spatially separated sensor segments in figure 3.

Conclusion

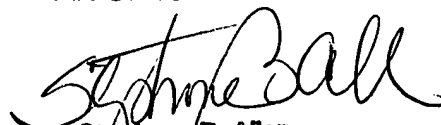
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (571) 272-2440. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJL
March 1, 2006

Patrick J. Lee
Examiner
Art Unit 2878


Stephane B. Allen
Primary Examiner